

Mon May 12 16:37:38 2003

us-09-787-844-1.rng

Page 1

Exhibit A

Page 1 of 2

GenCore version 5.1.5  
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OM nucleic - nucleic search, using sw model

Run on: May 10, 2003, 02:50:58 ; Search time 351 Seconds

(without alignments)  
6935.642 Million cell updates/sec

Title: US-09-787-844-1

Perfect score: 1081

Sequence: 1 agagagcagagggggcgctca.....acattccagttgatgctgc 1081

Scoring table: IDENTITY\_NUC

Gapop 10.0, Gapext 1.0

Searched: 2185239 seqs, 112599159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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24: /SID52/gcgdata/geneSeq/geneSeq-emb1/NA2003.DAT.\*

# SUMMARIES

| Result No. | Score  | Query Match | Length DB | ID | Description |
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| 1          | 1081   | 100.0       | 1081      | 20 | AA87151     |
| 2          | 1081   | 100.0       | 1081      | 21 | AA08505     |
| 3          | 1063.8 | 98.9        | 1087      | 21 | AA62015     |
| 4          | 1063.2 | 98.4        | 1131      | 22 | AA50169     |
| 5          | 1055.8 | 97.7        | 1100      | 20 | AA52259     |
| 6          | 1055.8 | 97.7        | 1100      | 22 | AA72417     |
| 7          | 1054.8 | 97.6        | 1079      | 24 | AA27418     |
| 8          | 1054.8 | 97.4        | 1079      | 21 | AA45673     |
| 9          | 1052.4 |             |           |    |             |

|    |        |      |      |    |           |                       |
|----|--------|------|------|----|-----------|-----------------------|
| 10 | 1049.6 | 97.1 | 1100 | 19 | AAV5919   | Nucleotide sequenc    |
| 11 | 1048.6 | 97.0 | 1117 | 19 | AAV5918   | Nucleotide sequenc    |
| 12 | 1045.8 | 96.7 | 1082 | 20 | AAV1537   | Nucleotide acid encod |
| 13 | 1045.8 | 96.7 | 1082 | 24 | AAV27417  | Human eosinophil s    |
| 14 | 1037.8 | 96.0 | 1082 | 24 | AAV02648  | Human secreted pro    |
| 15 | 938.8  | 86.8 | 942  | 20 | AAV1536   | Nucleotide acid encod |
| 16 | 938.8  | 86.8 | 942  | 21 | AAV6205   | Nucleotide acid encod |
| 17 | 752.6  | 69.6 | 1103 | 22 | AAV55271  | Hydrophobic domain    |
| 18 | 496.4  | 45.9 | 498  | 22 | AAV01708  | WISH TADG-16 catal    |
| 19 | 494.8  | 45.8 | 498  | 22 | AAV01707  | WISH TADG-16 catal    |
| 20 | 493.4  | 45.6 | 529  | 24 | AAV61822  | Lung small cell ca    |
| 21 | 479    | 44.3 | 959  | 19 | AAV59132  | Nucleotide sequenc    |
| 22 | 475    | 43.9 | 918  | 22 | AAV67198  | Nucleotide sequenc    |
| 23 | 465.4  | 43.1 | 575  | 22 | AAV24506  | Human ovarian tumo    |
| 24 | 465.4  | 43.1 | 575  | 22 | AAV83114  | Human ovarian tumo    |
| 25 | 422.2  | 39.1 | 888  | 24 | AAV31769  | DNA encoding novel    |
| 26 | 412.2  | 38.2 | 1018 | 24 | AAV27415  | Human eosinophil s    |
| 27 | 334.2  | 30.9 | 386  | 19 | AAV59133  | Genomic sequence o    |
| 28 | 329.8  | 30.5 | 837  | 24 | AAV27419  | Human eosinophil s    |
| 29 | 318.2  | 29.4 | 373  | 24 | AAV80716  | Human ovarian can     |
| 30 | 165    | 15.3 | 1110 | 22 | AAV76994  | Human protease T c    |
| 31 | 165    | 15.3 | 1129 | 22 | AAV21354  | Human cDNA sequenc    |
| 32 | 165    | 15.3 | 1151 | 22 | AAV08286  | Human secreted pro    |
| 33 | 163.2  | 15.1 | 1703 | 21 | AAV252473 | Human cDNA sequenc    |
| 34 | 163.2  | 15.0 | 980  | 19 | AAV59136  | Nucleotide sequenc    |
| 35 | 161.8  | 14.9 | 1212 | 22 | AAV58544  | Human polynucleoti    |
| 36 | 161.6  | 14.9 | 2457 | 24 | AAV31795  | DNA encoding novel    |
| 37 | 157.2  | 14.5 | 1157 | 22 | AAV60330  | Human polynucleoti    |
| 38 | 155.8  | 14.4 | 1150 | 22 | AAV77000  | Fusion gene of pro    |
| 39 | 151.8  | 14.0 | 1322 | 21 | AAV61704  | CDNA encoding mous    |
| 40 | 150.6  | 13.9 | 2662 | 24 | AAV23854  | Human protease PRT    |
| 41 | 150.6  | 13.9 | 2810 | 22 | AAV94500  | Human full-length     |
| 42 | 149    | 13.8 | 1958 | 24 | AAV12891  | Human secreted PRT    |
| 43 | 145.2  | 13.4 | 1122 | 24 | AAV37036  | Mouse trypsin CDN     |
| 44 | 145    | 13.4 | 437  | 24 | AAV81643  | Human eosinophil s    |
| 45 | 133.4  | 12.3 | 393  | 24 | AAV27416  | Human eosinophil s    |

# ALIGNMENTS

|          |                                                      |                          |
|----------|------------------------------------------------------|--------------------------|
| RESULT 1 | AA87151                                              | standard; cDNA; 1081 BP. |
| ID       | AA87151                                              |                          |
| AC       | AA87151                                              |                          |
| XX       | 27-SEP-1999                                          | (first entry)            |
| DT       | 27-SEP-1999                                          |                          |
| XX       | Human protease HUPM-3 cDNA.                          |                          |
| DE       | Human protease HUPM-3 cDNA.                          |                          |
| XX       | Protease; human; HUPM-3; cell proliferation; cancer; |                          |
| KW       | Immune disorder; inflammation; therapy; ss.          |                          |
| XX       |                                                      |                          |
| OS       | Homo sapiens.                                        |                          |
| XX       |                                                      |                          |
| PH       | Key                                                  | Location/Qualifiers      |
| FT       | CDS                                                  | 40..984                  |
| FT       |                                                      | /*tag- a                 |
| FT       | sig_peptide                                          | 40..76                   |
| FT       |                                                      | /*tag- b                 |
| FT       | /note- "putative signal peptide sequence"            |                          |
| FT       | mat_peptide                                          | 77..981                  |
| FT       |                                                      | /*tag- b                 |
| PN       | MO9936550-A2.                                        |                          |
| XX       | 22-JUL-1999.                                         |                          |
| PD       | 12-JAN-1999;                                         | 99WO-US00655.            |
| PF       | Protein PRO303 cDN                                   |                          |
| XX       | Human PRO303 cDNA.                                   |                          |
| PR       | 16-JAN-1998;                                         | 98US-0008271.            |
| XX       |                                                      |                          |



|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                |     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----|
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "protein kinase C phosphorylation site" | 73  |
| FT | Active-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | /note= "protein kinase C phosphorylation site" | 82  |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "protein kinase C phosphorylation site" | 86  |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "protein kinase C phosphorylation site" | 127 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "protein kinase C phosphorylation site" | 134 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "casein kinase II phosphorylation site" | 161 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "casein kinase II phosphorylation site" | 167 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "N-glycosylated"                        | 190 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "casein kinase II phosphorylation site" | 200 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "N-glycosylated"                        | 212 |
| FT | Active-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | /note= "protein kinase C phosphorylation site" | 238 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "N-glycosylated"                        | 273 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "N-glycosylated"                        | 291 |
| FT | Modified-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | /note= "casein kinase II phosphorylation site" |     |
| FN | W09936550-A2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                |     |
| PD | 22-JUL-1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |     |
| XX | 12-JAN-1999;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 99WO-US000655.                                 |     |
| XX | 16-JAN-1998;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 98US-00008271.                                 |     |
| XX | (INCY-) INCYTE PHARM INC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                |     |
| PI | Bandman O, Hillman JL, Yue H, Guegler KJ, Corley NC, Tang YT, Shan P;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                |     |
| XX | MP1: 1999-430616/36.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                |     |
| DR | N-PSDB; AAX87151.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |     |
| XX | Novel human protease molecules useful in the treatment of developmental disorders and/or cancers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |     |
| PT | Claim 1; Page 71-72; 90pp; English.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                |     |
| CC | The present sequence represents novel human protease HUPM-3, as deduced from the consensus sequence (see AAX87151) of overlapping cDNA clones obtained from various libraries. Northern analysis shows expression of HUPM-3 in cardiovascular, hematopoietic and male reproductive cDNA libraries. Approximately 86% of these libraries are associated with neoplastic disorders. The invention provides 12 new human proteases, i.e. HUPM-1 to -12 (see AAY06433-43), and the polynucleotides encoding them (see AAX87149-60). Also provided are vectors, host cells and methods for producing HUPM polypeptides, as well as agonists and antagonists of HUPM. Methods for treating or preventing cell proliferative disorders and immune disorders using HUPM or HUPM antagonists are claimed |                                                |     |
| CC | Sequence 314 AA;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                |     |
| CC | Query Match                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 96.4%; Score 1728; DB 2; Length 314;           |     |
| CC | Best Local Similarity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100.0%; Pred. No. 5,8e-148;                    |     |
| CC | Matches 314; Conservative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0; Mismatches 0; Indels 0; Gaps 0              |     |
| DB | 1 MGARGALLIALLILARAGLRKPESSQEAAPISGCGRRVITSRIVGEDAELGMPWGSUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                | 73  |
| DB | 1 MGARGALLIALLILARAGLRKPESSQEAAPISGCGRRVITSRIVGEDAELGMPWGSUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                | 60  |
| QY | 1MDSHVCGVSLISHRWALTAACHCEFTYSGLSPSGMMVQFGQLTSPSPWMSLAAYTRYF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                | 133 |
| QY | 61LMDSHVCGVSLISHRWALTAACHCEFTYSGLSPSGMMVQFGQLTSPSPWMSLAAYTRYF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                | 120 |

QY 134 VSNITLSPRYIGNSPYDIALVKLSAPVTYTHIQICLQASTFEHENRTDCWVTGWSYIK 193  
 DB 121 VSNITLSPRYIGNSPYDIALVKLSAPVTYTHIQICLQASTFEHENRTDCWVTGWSYIK 180  
 QY 194 EDEALPSPHTLQEVVAIINNMCNHLFLKYSFRPDIFGDMVACGAGNAGGDAFCGDSGG 253  
 DB 181 EDEALPSPHTLQEVVAIINNMCNHLFLKYSFRPDIFGDMVACGAGNAGGDAFCGDSGG 240  
 QY 254 PLACKNKGIMWTQIGVSVGCGGRPNRPQVYTNISHEFEWIOKMAQSGMSQDPSPWPL 313  
 DB 241 PLACKNKGIMWTQIGVSVGCGGRPNRPQVYTNISHEFEWIOKMAQSGMSQDPSPWPL 300  
 QY 314 FFPLMLALPLGLPV 327  
 DB 301 FFPLMLALPLGLPV 314

RESULT 5  
 AA13388  
 ID AA13388 standard; protein; 314 AA.  
 AC AA13388;  
 DT 25-JUN-1999 (first entry)  
 XX  
 DE Amino acid sequence of protein PRO303.  
 XX  
 KM Secreted protein; transmembrane protein; human; enterocolitis;  
 KM Zollinger-Ellison syndrome; gastrointestinal ulceration;  
 KM congenital microvillus atrophy; skin disease; cell growth;  
 KM abnormal keratinocyte differentiation; psoriasis; epithelial cancer;  
 KM Parkinson's disease; Alzheimer's disease; ALS; neuropathy; fibromodulin;  
 KM dermal scarring; Usher Syndrome; Atrophla areata; and thrombotic;  
 KM wound healing; tissue repair.  
 XX  
 XX Homo sapiens.  
 OS  
 XX MO9914328-A2.  
 PN  
 XX 25-MAR-1999.  
 PD  
 XX  
 PF 16-SEP-1998; 98WO-05019330.  
 XX  
 XX 17-SEP-1997; 97US-0059113P.  
 PR 17-SEP-1997; 97US-0059115P.  
 PR 17-SEP-1997; 97US-0059117P.  
 PR 17-SEP-1997; 97US-0059119P.  
 PR 17-SEP-1997; 97US-0059121P.  
 PR 17-SEP-1997; 97US-0059122P.  
 PR 17-SEP-1997; 97US-0059124P.  
 PR 18-SEP-1997; 97US-0059263P.  
 PR 18-SEP-1997; 97US-0059266P.  
 PR 15-OCT-1997; 97US-0062125P.  
 PR 17-OCT-1997; 97US-0062285P.  
 PR 17-OCT-1997; 97US-0062287P.  
 PR 21-OCT-1997; 97US-0062816P.  
 PR 24-OCT-1997; 97US-0062816P.  
 PR 24-OCT-1997; 97US-0062816P.  
 PR 24-OCT-1997; 97US-0063045P.  
 PR 24-OCT-1997; 97US-0063120P.  
 PR 24-OCT-1997; 97US-0063121P.  
 PR 24-OCT-1997; 97US-0063127P.  
 PR 24-OCT-1997; 97US-0063128P.  
 PR 27-OCT-1997; 97US-0063327P.  
 PR 27-OCT-1997; 97US-0063329P.  
 PR 28-OCT-1997; 97US-0063541P.  
 PR 28-OCT-1997; 97US-0063542P.  
 PR 28-OCT-1997; 97US-0063544P.  
 PR 28-OCT-1997; 97US-0063549P.  
 PR 28-OCT-1997; 97US-0063550P.  
 PR 28-OCT-1997; 97US-0063564P.  
 PR 29-OCT-1997; 97US-0063435P.  
 PR 29-OCT-1997; 97US-0063704P.

PR 29-OCT-1997; 97US-0063732P.  
 PR 29-OCT-1997; 97US-0063734P.  
 PR 29-OCT-1997; 97US-0063735P.  
 PR 29-OCT-1997; 97US-0063738P.  
 PR 29-OCT-1997; 97US-0064215P.  
 PR 31-OCT-1997; 97US-0063870P.  
 PR 31-OCT-1997; 97US-0064103P.  
 PR 03-NOV-1997; 97US-0064248P.  
 PR 07-NOV-1997; 97US-0064809P.  
 PR 12-NOV-1997; 97US-0065186P.  
 PR 17-NOV-1997; 97US-0065846P.  
 PR 18-NOV-1997; 97US-0065932P.  
 PR 21-NOV-1997; 97US-0066120P.  
 PR 21-NOV-1997; 97US-0066364P.  
 PR 24-NOV-1997; 97US-0066453P.  
 PR 24-NOV-1997; 97US-0066466P.  
 PR 24-NOV-1997; 97US-0066511P.  
 PR 24-NOV-1997; 97US-0066770P.  
 PR 24-NOV-1997; 97US-0066772P.  
 PR 25-NOV-1997; 97US-0066840P.

(GETH) GENENTECH INC.  
 PA  
 XX  
 PI Wood WI, Gurney AL, Goddard A, Pennica D, Chen J, Yuan J;  
 XX WPI, 1999-229533/19.  
 XX N-PSDB; AAX52259.  
 DR  
 XX  
 PS New isolated human genes and polypeptides used in, e.g. treatment of  
 XX Gastrointestinal ulceration.  
 XX  
 XX Claim 12; Fig 92; 320pp; English.

CC AA13344-403 represent secreted and transmembrane human proteins. The  
 CC cDNA sequences are obtained from cDNA libraries, prepared from fetal  
 CC lung, fetal kidney, fetal brain, fetal liver and fetal retina. The  
 CC encoded polypeptides have specific uses based on their homology to known  
 CC polypeptides, e.g. PRO211 and PRO217 can be used for disorders associated  
 CC with the preservation and maintenance of gastrointestinal mucosa and the  
 CC repair of acute and chronic mucosal lesions (e.g. enterocolitis).  
 CC Zollinger-Ellison syndrome, gastrointestinal ulceration and congenital  
 CC microvillus atrophy, skin diseases associated with abnormal keratinocyte  
 CC differentiation (e.g. psoriasis, epithelial cancers such as lung squamous  
 CC cell carcinoma of the vulva and gliomas), potent effects on cell growth  
 CC and development, diseases related to growth or survival of nerve cells  
 CC including Parkinson's disease, Alzheimer's disease, ALS, neuropathies or  
 CC cancer. PRO265 can be used as for fibromodulin, e.g. for reducing dermal  
 CC scarring. PRO264 can be used as a target for anti-tumor drugs. PRO533 may  
 CC be used in the treatment of Usher Syndrome or Atrophla areata; PRO269 can  
 CC have therapeutic applications in wound healing and tissue repair; PRO217  
 CC can be used for treating problems of the kidney, uterus, endometrium,  
 CC blood vessels, or related tissue, e.g. in the heart of genital tract

XX Sequence 314 AA;  
 XX  
 QY Query Match 96.4%; Score 1728; DB 2; Length 314;  
 DB Best Local Similarity 100.0%; Pred. No. 5.8e-148;  
 DB Matches 314; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 14 MGARALLLALLLAAAGRKRESQEAALSPGCGRRVITSIVGGEDAEIQRMTWQSLR 73  
 DB 1 MGARALLLALLLAAAGRKRESQEAALSPGCGRRVITSIVGGEDAEIQRMTWQSLR 60

QY 74 LMDSHVCGVSLISRMALTAHCFETYSDDLSPGMMVQFQSLTSMSPFSLQAYRYR 133  
 DB 61 LMDSHVCGVSLISRMALTAHCFETYSDDLSPGMMVQFQSLTSMSPFSLQAYRYR 120

QY 134 VSNITLSPRYIGNSPYDIALVKLSAPVTYTHIQICLQASTFEHENRTDCWVTGWSYIK 193  
 DB 121 VSNITLSPRYIGNSPYDIALVKLSAPVTYTHIQICLQASTFEHENRTDCWVTGWSYIK 180

QY 194 EDEALPSPHTLQEVVAIINNMCNHLFLKYSFRKDFGDMVACGAGNAGGDAFCGDSGG 253

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: April 6, 2004, 14:05:54 ; Search time 17 seconds

(without alignments)  
1001.585 Million cell updates/sec

Title: US-09-787-844-2  
Perfect score: 1792

Sequence: 1 RRGRGRQAGEAMGARGAL.....PSWPLFPPLMLALPLGPV 327

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt\_42:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description |
|------------|-------|-------------|--------|----|-------------|
| 1          | 1728  | 96.4        | 314    | 1  | TEST_HUMAN  |
| 2          | 1147  | 64.0        | 324    | 1  | TEST_MOUSE  |
| 3          | 603   | 33.6        | 321    | 1  | TRYG_HUMAN  |
| 4          | 580   | 32.4        | 343    | 1  | PS8_HUMAN   |
| 5          | 574   | 32.0        | 290    | 1  | PR27_HUMAN  |
| 6          | 562.5 | 31.4        | 342    | 1  | PS8_MOUSE   |
| 7          | 561.5 | 31.3        | 342    | 1  | PS8_MOUSE   |
| 8          | 556.5 | 31.1        | 311    | 1  | TRYG_MOUSE  |
| 9          | 544   | 30.4        | 273    | 1  | TRYT_SHEEP  |
| 10         | 543   | 30.3        | 811    | 1  | TMS6_MOUSE  |
| 11         | 531.5 | 29.7        | 317    | 1  | BSS4_HUMAN  |
| 12         | 528.5 | 29.5        | 270    | 1  | TRIT_THERON |
| 13         | 522   | 29.1        | 275    | 1  | TRIT_FIG    |
| 14         | 520   | 29.0        | 306    | 1  | BSS4_MOUSE  |
| 15         | 515   | 28.7        | 275    | 1  | TRB1_HUMAN  |
| 16         | 514.5 | 28.7        | 638    | 1  | KAL_MOUSE   |
| 17         | 514   | 28.7        | 275    | 1  | TRB2_HUMAN  |
| 18         | 513   | 28.6        | 638    | 1  | KAL_HUMAN   |
| 19         | 512   | 28.6        | 276    | 1  | MCT6_MOUSE  |
| 20         | 511   | 28.5        | 275    | 1  | MCT6_MOUSE  |
| 21         | 511   | 28.5        | 638    | 1  | KAL_HUMAN   |
| 22         | 509.5 | 28.4        | 273    | 1  | MCT7_RAT    |
| 23         | 509   | 28.4        | 811    | 1  | TMS6_HUMAN  |
| 24         | 508.5 | 28.4        | 454    | 1  | TMS3_HUMAN  |
| 25         | 507   | 28.3        | 273    | 1  | MCT7_MOUSE  |
| 26         | 505   | 28.2        | 453    | 1  | TMS3_MOUSE  |
| 27         | 500   | 27.9        | 274    | 1  | MCT6_MOUSE  |
| 28         | 499   | 27.8        | 275    | 1  | TRIA_HUMAN  |
| 29         | 490.5 | 27.4        | 435    | 1  | TMS4_MOUSE  |
| 30         | 489.5 | 27.3        | 418    | 1  | HAT_HUMAN   |
| 31         | 487.5 | 27.2        | 455    | 1  | TMS5_MOUSE  |
| 32         | 483.5 | 27.0        | 625    | 1  | PAI_HUMAN   |
| 33         | 478   | 26.7        | 437    | 1  | TMS4_HUMAN  |

|    |       |      |      |   |            |
|----|-------|------|------|---|------------|
| 34 | 477.5 | 26.6 | 417  | 1 | HEB8_HUMAN |
| 35 | 472.5 | 26.4 | 422  | 1 | DEB1_HUMAN |
| 36 | 468   | 26.1 | 490  | 1 | TMS2_MOUSE |
| 37 | 466   | 26.0 | 436  | 1 | HEB8_MOUSE |
| 38 | 459.5 | 25.6 | 492  | 1 | TMS2_HUMAN |
| 39 | 457.5 | 25.5 | 457  | 1 | TMS3_HUMAN |
| 40 | 455.5 | 25.4 | 415  | 1 | ACRO_PIG   |
| 41 | 455.5 | 25.4 | 810  | 1 | PLMN_HUMAN |
| 42 | 454.5 | 25.4 | 1069 | 1 | PLMN_MOUSE |
| 43 | 454   | 25.3 | 338  | 1 | ENK_MOUSE  |
| 44 | 452.5 | 25.3 | 436  | 1 | ACRO_MOUSE |
| 45 | 447   | 24.9 | 416  | 1 | HEB5_RAT   |

## ALIGNMENTS

|          |                                                                                                                                  |           |      |         |
|----------|----------------------------------------------------------------------------------------------------------------------------------|-----------|------|---------|
| RESULT 1 | TEST_HUMAN                                                                                                                       | STANDARD; | PRT; | 314 AA. |
| AC       | 09Y6M0; Q9NS34; Q9P2V6;                                                                                                          |           |      |         |
| DT       | 16-OCT-2001 (Rel. 40, Created)                                                                                                   |           |      |         |
| DT       | 16-OCT-2001 (Rel. 40, Last sequence update)                                                                                      |           |      |         |
| DT       | 15-MAR-2004 (Rel. 43, Last annotation update)                                                                                    |           |      |         |
| DE       | Testisin precursor (EC 3.4.21.-) (Eosinophil serine protease 1) (ESP-1) (UNQ266/PRO303).                                         |           |      |         |
| DE       | PRSS21 OR TEST1 OR ESPL.                                                                                                         |           |      |         |
| GN       | Homo sapiens (human)                                                                                                             |           |      |         |
| OC       | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;                                                                |           |      |         |
| OC       | Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.                                                                      |           |      |         |
| OX       | NCBI_Taxid=9606;                                                                                                                 |           |      |         |
| RN       | [1]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RC       | TISSUE=Eosinophil;                                                                                                               |           |      |         |
| RX       | MEDLINE=99045401; PubMed=9826525;                                                                                                |           |      |         |
| RA       | Inoue M., Kanbe N., Kurosawa M., Kido H.;                                                                                        |           |      |         |
| RT       | "Cloning and tissue distribution of a novel serine protease esp-1 from human eosinophils."                                       |           |      |         |
| RL       | Biochem. Biophys. Res. Commun. 252:307-312(1998).                                                                                |           |      |         |
| RN       | [2]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 3).                                                                                                  |           |      |         |
| RX       | MEDLINE=20068805; PubMed=10600542;                                                                                               |           |      |         |
| RA       | Inoue M., Ito M., Itoyama T., Kido H.;                                                                                           |           |      |         |
| RT       | "Structural analysis of esp-1 gene (PRSS 21)."                                                                                   |           |      |         |
| RL       | Biochem. Biophys. Res. Commun. 266:564-568(1999).                                                                                |           |      |         |
| RN       | [3]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).                                                                                           |           |      |         |
| RC       | TISSUE=Cervical carcinoma;                                                                                                       |           |      |         |
| RX       | MEDLINE=9933395; PubMed=10397266;                                                                                                |           |      |         |
| RA       | Hooper J.D., Nicol D.L., Dickinson J.L., Eyre H.J., Seaman A.L.;                                                                 |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [4]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A.                                                                                                               |           |      |         |
| RX       | MEDLINE=20461760; PubMed=11004480;                                                                                               |           |      |         |
| RA       | Hooper J.D., Bowen N., Marshall H., Cullen L.M., Sood R., Daniels R.;                                                            |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [5]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [6]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [7]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [8]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [9]                                                                                                                              |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [10]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [11]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [12]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [13]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [14]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [15]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [16]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [17]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [18]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [19]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [20]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [21]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [22]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [23]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [24]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [25]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [26]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [27]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [28]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [29]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [30]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [31]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [32]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [33]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [34]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [35]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [36]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [37]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [38]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [39]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [40]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [41]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [42]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [43]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [44]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=12975309;                                                                                               |           |      |         |
| RA       | Clark H.F., Guney A.L., Abaya E., Baker K., Baldwin D., Brush J.;                                                                |           |      |         |
| RT       | "Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors." |           |      |         |
| RL       | Cancer Res. 59:3199-3205(1999).                                                                                                  |           |      |         |
| RN       | [45]                                                                                                                             |           |      |         |
| RP       | SEQUENCE FROM N.A. (ISOFORM 1).                                                                                                  |           |      |         |
| RX       | MEDLINE=22887226; PubMed=1297530                                                                                                 |           |      |         |

|    |                                                                                                                          |                                                          |
|----|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| RA | Vandien                                                                                                                  | Watanabe C., Mleand D., Woods K., Xie M.-H., Yansura D., |
| RA | Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,                                                        |                                                          |
| RA | Gondowski P.,                                                                                                            |                                                          |
| RT | "The secreted protein discovery initiative (SPDI), a large-scale                                                         |                                                          |
| RT | effort to identify novel human secreted and transmembrane proteins: a                                                    |                                                          |
| RT | Bioinformatics assessment."                                                                                              |                                                          |
| RL | Genome Res. 13:2265-2270(2003).                                                                                          |                                                          |
| CC | -1- FUNCTION: Could regulate proteolytic events associated with                                                          |                                                          |
| CC | testicular germ cell maturation.                                                                                         |                                                          |
| CC | -1- SUBCELLULAR LOCATION: Attached to the membrane by a GPI-anchor                                                       |                                                          |
| CC | (Potential).                                                                                                             |                                                          |
| CC | -1- ALTERNATIVE PRODUCTS:                                                                                                |                                                          |
| CC | Event-Alternative splicing; Named isoforms=3;                                                                            |                                                          |
| CC | Name=1; Synonyms=1;                                                                                                      |                                                          |
| CC | isoId=Q9Y6M0-1; Sequence=Displayed;                                                                                      |                                                          |
| CC | Name=2; Synonyms=5;                                                                                                      |                                                          |
| CC | isoId=Q9Y6M0-2; Sequence=VSP_005389;                                                                                     |                                                          |
| CC | Name=3;                                                                                                                  |                                                          |
| CC | isoId=Q9Y6M0-3; Sequence=VSP_005390;                                                                                     |                                                          |
| CC | -1- TISSUE SPECIFICITY: Expressed predominantly in premeiotic                                                            |                                                          |
| CC | testicular germ cells, mostly late pachytene and diplotene                                                               |                                                          |
| CC | spermatocytes.                                                                                                           |                                                          |
| CC | -1- SIMILARITY: Belongs to peptidase family S1.                                                                          |                                                          |
| CC | -----                                                                                                                    |                                                          |
| CC | This SWISS-PROT entry is copyright. It is produced through a collaboration                                               |                                                          |
| CC | between the Swiss Institute of Bioinformatics and the EMBL outstation at                                                 |                                                          |
| CC | the European Bioinformatics Institute. There are no restrictions on its                                                  |                                                          |
| CC | use by non-profit institutions as long as its content is in no way                                                       |                                                          |
| CC | modified and this statement is not removed. Usage by and for commercial                                                  |                                                          |
| CC | entities requires a license agreement (see <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> |                                                          |
| CC | or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).                                        |                                                          |
| CC | -----                                                                                                                    |                                                          |
| DR | EMBL; AF0583300; AAD41588.1; -                                                                                           |                                                          |
| DR | EMBL; AB031329; BAA83520.1; -                                                                                            |                                                          |
| DR | EMBL; AB031330; BAA83521.1; -                                                                                            |                                                          |
| DR | EMBL; AB031331; BAA83522.1; -                                                                                            |                                                          |
| DR | EMBL; AF0583301; AAF79019.1; -                                                                                           |                                                          |
| DR | EMBL; AF0583301; AAF79020.1; -                                                                                           |                                                          |
| DR | EMBL; AY359034; AAQ89393.1; -                                                                                            |                                                          |
| DR | HSSP; P00763; IDPO.                                                                                                      |                                                          |
| DR | HSRPS; S01.011; -                                                                                                        |                                                          |
| DR | Genew; HGNC:9485; PRS821.                                                                                                |                                                          |
| DR | MM; 608159; -                                                                                                            |                                                          |
| DR | GO: GO:0005737; C:Cytoplasm; TAS.                                                                                        |                                                          |
| DR | GO: GO:0005624; C:membrane fraction; TAS.                                                                                |                                                          |
| DR | GO: GO:0005886; C:plasma membrane; TAS.                                                                                  |                                                          |
| DR | GO: GO:0008236; F:serine-type peptidase activity; TAS.                                                                   |                                                          |
| DR | InterPro; IPR009003; Cys_Ser_trypsin.                                                                                    |                                                          |
| DR | InterPro; IPR001254; Peptidase_S1.                                                                                       |                                                          |
| DR | Pfam; PF00089; trypsin; 1.                                                                                               |                                                          |
| DR | PRINTS; PR00722; CHYMOTRYPSIN.                                                                                           |                                                          |
| DR | SMART; SMO0020; TRYP_SPC; 1.                                                                                             |                                                          |
| DR | PROSITE; PSS0240; TRYPsin_DOM; 1.                                                                                        |                                                          |
| DR | PROSITE; PS00134; TRYPsin_HIS; 1.                                                                                        |                                                          |
| DR | PROSITE; PS00135; trypsin_SER; 1.                                                                                        |                                                          |
| KW | Hydrolase; Serine protease; Glycoprotein; Signal; GPI-anchor; Zymogen;                                                   |                                                          |
| KW | Alternative splicing; Lipoprotein.                                                                                       |                                                          |
| FT | SIGNAL                                                                                                                   |                                                          |
| FT | PROPEP                                                                                                                   |                                                          |
| FT | CHAIN                                                                                                                    |                                                          |
| FT | PROPEP                                                                                                                   |                                                          |
| FT | ACT_SITE                                                                                                                 |                                                          |
| FT | ACT_SITE                                                                                                                 |                                                          |
| FT | ACT_SITE                                                                                                                 |                                                          |
| FT | DISULFID                                                                                                                 |                                                          |
| FT | DISULFID                                                                                                                 |                                                          |
| FT | DISULFID                                                                                                                 |                                                          |
| FT | DISULFID                                                                                                                 |                                                          |
| FT | DISULFID                                                                                                                 |                                                          |
| FT | LIPID                                                                                                                    |                                                          |
| FT | CARBOHYD                                                                                                                 |                                                          |
| FT | CARBOHYD                                                                                                                 |                                                          |

| FT                    | CARBOHYD                                                             | 273                                                         | 273                     | N-LINKED (GLCNAC...)    | (POTENTIAL) |
|-----------------------|----------------------------------------------------------------------|-------------------------------------------------------------|-------------------------|-------------------------|-------------|
| FT                    | VARSPPLIC                                                            | 87                                                          | 88                      | Missing (in isoform 2). |             |
| FT                    | VARSPPLIC                                                            | 222                                                         | 235                     | /FtId=VSP_005389        |             |
| FT                    | VARSPPLIC                                                            |                                                             |                         | Missing (in isoform 3). |             |
| FT                    | SEQUENCE                                                             | 314 AA; 34884 MW;                                           | E738CF73FB565E98 CRC64; |                         |             |
| Query Match           |                                                                      | 96.4%; Score 1728; DB 1; Length 314;                        |                         |                         |             |
| Best Local Similarity |                                                                      | 100.0%; Pred. No. 1.2e-147;                                 |                         |                         |             |
| Matches 314;          | Conservative                                                         | 0; Mismatches                                               | 0; Indels               | 0; Gaps                 | 0;          |
| QY                    | 14                                                                   | MGARGLLALLILARAGIRKRESEGLAPLSGPGGRVITSRIVYGSDADLSMPWQSLR    | 73                      |                         |             |
| DB                    | 1                                                                    | MGARGLLALLILARAGIRKRESEGLAPLSGPGGRVITSRIVYGSDADLSMPWQSLR    | 60                      |                         |             |
| QY                    | 74                                                                   | IMDSHVCGLSLSHRMALTAHCETASDSDSGMMVPGQLTSPISWISQAAVTRYF       | 133                     |                         |             |
| DB                    | 61                                                                   | IMDSHVCGLSLSHRMALTAHCETASDSDSGMMVPGQLTSPISWISQAAVTRYF       | 120                     |                         |             |
| QY                    | 134                                                                  | VSNITISPRYIGNSPYDALVKLSAPVTTYTKHIOPICLQASTFEFNRTDCWVTGMYTK  | 193                     |                         |             |
| DB                    | 121                                                                  | VSNITISPRYIGNSPYDALVKLSAPVTTYTKHIOPICLQASTFEFNRTDCWVTGMYTK  | 180                     |                         |             |
| QY                    | 194                                                                  | EDBALPSPRTIQEYVVALINNSMGNHLFLKYSFRKDIFGDMVCAQNAQSGXACFGDSOG | 253                     |                         |             |
| DB                    | 181                                                                  | EDBALPSPRTIQEYVVALINNSMGNHLFLKYSFRKDIFGDMVCAQNAQSGXACFGDSOG | 240                     |                         |             |
| QY                    | 254                                                                  | PLACNKNGLNIVTIGVNSGVGCGGPRNPGVYTTINSHHFVIOQLTMAQSGMQSPDSWPL | 313                     |                         |             |
| DB                    | 241                                                                  | PLACNKNGLNIVTIGVNSGVGCGGPRNPGVYTTINSHHFVIOQLTMAQSGMQSPDSWPL | 300                     |                         |             |
| QY                    | 314                                                                  | FPFLMALPLIGPV                                               | 327                     |                         |             |
| DB                    | 301                                                                  | FPFLMALPLIGPV                                               | 314                     |                         |             |
| RESULT 2              |                                                                      |                                                             |                         |                         |             |
| TEST_MOUSE            | ID                                                                   | TEST_MOUSE                                                  | STANDARD;               | PRT;                    | 324 AA.     |
| AC                    | Q9JHT7; Q9D14;                                                       |                                                             |                         |                         |             |
| DT                    | 16-OCT-2001 (Rel. 40, Created)                                       |                                                             |                         |                         |             |
| DT                    | 16-OCT-2001 (Rel. 40, Last sequence update)                          |                                                             |                         |                         |             |
| DT                    | 15-MAR-2004 (Rel. 43, Last annotation update)                        |                                                             |                         |                         |             |
| DE                    | Testis in precursor (RC 3.4.21.-) (Typease 4).                       |                                                             |                         |                         |             |
| GN                    | PR821.                                                               |                                                             |                         |                         |             |
| OS                    | Mus musculus (Mouse).                                                |                                                             |                         |                         |             |
| OC                    | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;    |                                                             |                         |                         |             |
| OC                    | Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.            |                                                             |                         |                         |             |
| OX                    | NCBI_Taxid=10090;                                                    |                                                             |                         |                         |             |
| RN                    | [1]                                                                  |                                                             |                         |                         |             |
| RP                    | SEQUENCE FROM N.A.                                                   |                                                             |                         |                         |             |
| RC                    | STRAIN=129/Sv.                                                       |                                                             |                         |                         |             |
| RX                    | MEDLINE=1133229; PubMed=11231276;                                    |                                                             |                         |                         |             |
| RA                    | Scherman A.L., Hooper J.D., Boucaut K.J., Sit M.-L., Webb G.C.,      |                                                             |                         |                         |             |
| RA                    | Northwyle J.F., Antalis T.M.,                                        |                                                             |                         |                         |             |
| RT                    | "Organization and chromosomal localization of the murine Testis gene |                                                             |                         |                         |             |
| RT                    | encoding a serine protease temporally expressed during               |                                                             |                         |                         |             |
| RT                    | spermatogenesis";                                                    |                                                             |                         |                         |             |
| RL                    | Eur. J. Biochem. 268:1250-1258(2001).                                |                                                             |                         |                         |             |
| RN                    | [2]                                                                  |                                                             |                         |                         |             |
| RP                    | SEQUENCE FROM N.A.                                                   |                                                             |                         |                         |             |
| RC                    | STRAIN=BALE/C; TISSUE=Testis;                                        |                                                             |                         |                         |             |
| RX                    | PubMed=11259427;                                                     |                                                             |                         |                         |             |
| RX                    | Wong G.W., Li L., Madhusudan M.S., Krilis S.A., Gurish M.F.,         |                                                             |                         |                         |             |
| RA                    | Rothberg M.E., Sali A., Stevens R.L.,                                |                                                             |                         |                         |             |
| RT                    | "Typease 4, a new member of the chromosome 17 family of mouse serine |                                                             |                         |                         |             |
| RT                    | proteases";                                                          |                                                             |                         |                         |             |
| RL                    | J. Biol. Chem. 276:20648-20658(2001).                                |                                                             |                         |                         |             |
| RN                    | [3]                                                                  |                                                             |                         |                         |             |
| RP                    | SEQUENCE OF 3-324 FROM N.A.                                          |                                                             |                         |                         |             |
| RC                    | STRAIN=C57BL/6J; TISSUE=Testis;                                      |                                                             |                         |                         |             |
| RX                    | MEDLINE=21085650; PubMed=11217851;                                   |                                                             |                         |                         |             |
| RA                    | Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,    |                                                             |                         |                         |             |